



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF

SR- 6J

November 8, 2019

Mr. Scott Keesling  
Georgia-Pacific LLC  
133 Peachtree Street NE  
Atlanta, Georgia 30303

RE: Area 1: 30% Design Remedial Reach Sediment Removal Comments

Dear Mr. Keesling:

The U.S. Environmental Protection Agency (EPA) has completed its review of the Area 1 30% Design for the Remedial Reach Sediment Removal, submitted on August 30, 2019, by Georgia-Pacific LLC (GP) and International Paper Company (IP) for the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site. The 30% design provides preliminary information regarding sediment removal from the Remedial Reach portion of Area 1 within the Kalamazoo River.

EPA has enclosed comments on the 30% design document. Pursuant to the 2017 Unilateral Administrative Order, Docket No. V-W-17-C-002 the Pre-final 95% design is due to EPA within sixty (60) days receipt of this letter and must address EPA's comments on the 30% design.

Please contact me at (312) 886-0992 if you have any questions regarding this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "JAS", is written over the word "Sincerely,".

James A. Saric  
Remedial Project Manager  
SEMD Remedial Response Branch #1

Enclosure

cc: Dan Peabody, EGLE  
Brian Jones, IP

**U.S. EPA COMMENTS  
ON THE AREA 1  
30% DESIGN REMEDIAL REACH SEDIMENT REMOVAL  
ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO  
RIVER SITE**

**GENERAL COMMENTS**

**Commenting Organization: US EPA  
General Comment #1:**

**Commenter: EGLE**

Land use permits are required when accessing state land. Permits should be submitted with ample time for review.

**Commenting Organization: US EPA  
General Comment #2:**

**Commenter: EGLE**

The text in Section 3.2.3 discusses the HEC-RAS model and clearly states that the model is uncalibrated. An uncalibrated model should not be relied upon for design evaluations and decisions. Every effort should be made to appropriately calibrate the model and revise the design as needed. High flow conditions caused by flood events and short-term changes in flow due to operation of the Comstock Dam are also of concern and should be considered.

**Commenting Organization: US EPA  
General Comment: 3**

**Commenter: Keiser/White/Plomb**

More detail is required on how sediments with concentrations greater than 50 ppm will be characterized, segregated and disposed.

**Commenting Organization: US EPA  
General Comment: 4**

**Commenter: Keiser/White/Plomb**

Additional detail is required describing how the deep dredge polygons will be excavated including side sloping and over excavation.

**Commenting Organization: US EPA  
General Comment 5**

**Commenter: EGLE**

There are several concerns with the proposed TSCA sediment removal estimate as described in Section 4.3.1.3. Dredging may result in the removal of more TSCA-level sediments than what was detected by the Pre-Design Investigation sampling program. How will those materials be identified? Wood suggests averaging layers, but the high presence of TSCA-level materials suggests that there are likely additional TSCA-level sediments in the vicinity. Based on comparison between Figures 4-1a through 4-7f

(showing PCB concentrations with depth) and Figures 4-8a through 4-8f (showing the neatline dredge cuts), there are several polygons with PCB concentrations of greater than 50 ppm in hotspots KPT-19, KRT-4, KRT-5/FF-19, and S-IM1 that are not designated for TSCA removal. By averaging layers, it appears that some sediment which should be classified as TSCA material may be missed.

**Commenting Organization:** US EPA  
**General Comment:** 6

**Commenter:** Keiser/White

The assumption of 35% added volume may not be conservative enough given the deep dredge cuts. This assumption should be tracked in future deliverables.

**Commenting Organization:** US EPA  
**General Comment:** 7

**Commenter:** Keiser/White

The basis for use of 1 ppm and 0.08 ppm replacement volumes should be clarified. The replacement values are being used to estimate SWAC values after remediation.

**Commenting Organization:** US EPA  
**General Comment:** 8

**Commenter:** EGLE

Sampling should be conducted to calculate post removal SWACs rather than using theoretical backfill concentrations.

**Commenting Organization:** US EPA  
**General Comment:** 9

**Commenter:** Keiser/White

The section on water quality monitoring should be expanded, what is the basis for the turbidity criteria of 50 NTU and how does it relate to PCB concentrations since PCBs are not proposed for monitoring?

**Commenting Organization:** US EPA  
**General Comment:** 10

**Commenter:** EGLE

Page 4-1 states that water treatment, dust monitoring/control, noise management, etc., will be performed in compliance with ARARs. Please note, that all activities onsite should be completed in compliance with ARARs and not just the selected activities listed above.

**Commenting Organization:** US EPA  
**General Comment:** 11

**Commenter:** EGLE

Removal volume estimates discussed in Section 4.3 do not specify what target concentration or decision criteria (e.g., remove a polygon when it is surrounded by dredge prisms with elevated concentrations on all sides) are being used to determine removal of non-TSCA sediments. Please clearly state in the text, what target concentration or decision criteria are being used to determine removal and excavation depths for both non-TSCA and TSCA sediments.

**Commenting Organization: US EPA**  
**General Comment: 12**

**Commenter: EGLE**

Fish tissue samples from the remedial reach should be collected prior to implementing remedial action. Fish tissue (carp and smallmouth bass) was not collected from the D Ave ABSA in 2017 and 2018, which is the closest ABSA to the Remedial Reach.

**Commenting Organization: US EPA**  
**General Comment: 13**

**Commenter: EGLE**

Appendix C states that the Draft Area 1 PDIWP Addendum 7 for the Additional Remedial Reach Sediment Sampling should be provided to the agencies by Q3/Q4 2019. Please provide an updated date for receipt of this addendum. Ample time should be provided in order to review and discuss the sampling design prior to implementation.

**Commenting Organization: US EPA**  
**General Comment: 14**

**Commenter: EGLE**

There are several sections which provide little site-specific detail and, overall, the report is less developed than expected. Example sections which require additional detail include Sections 4.3.1.5 Data Gaps (e.g., plan of action for assimilating the missing data), 5.1 Project Requirements (e.g., include description of objectives which define successful completion of the project), 7.1 Treatability Studies (e.g., identify the applicable wastewater discharge specifications), 9.1 Water Quality Monitoring (e.g., identify the applicable water quality ordinances), and 9.2 Air Quality and Noise Monitoring (e.g., identify the applicable noise ordinances).

**Commenting Organization: US EPA**  
**General Comment: 15**

**Commenter: Keiser**

The schedule needs to be expanded to show all milestones and aspects of work. Include items like future sampling efforts, treatability studies, contractor procurement, development of plans and anticipated dates and duration of construction. It may be useful to include all phases of Area 1 work including residential and floodplain design and remediation.

**Commenting Organization: US EPA**  
**General Comment: 16**

**Commenter: Saric**

TSCA applies to all sediments, as the material is considered PCB remediation waste. TSCA disposal regulations are different for sediments with PCB concentrations of 50 mg/kg or greater. The TSCA and non-TSCA nomenclature throughout the document needs to be removed and clarified.

## **SPECIFIC COMMENTS**

**Commenting Organization:** US EPA  
**Section:** 1  
**Specific Comment:** 1

**Commenter:** Trustees  
**Page #:** 1-1

In the Introduction, it would be helpful to state that the scope of this Design document is to provide a 30% design for the sediment portion of the actions in Area 1 that USEPA selected in the September 2015 ROD and outlined in the March 2017 UAO Statement of Work. Also, either here or in section 1.2, it would be helpful to mention that the design for the selected floodplain soil remedy will be presented in a separate document.

**Commenting Organization:** US EPA  
**Section:** 1  
**Specific Comment:** 2

**Commenter:** EGLE  
**Page #:** 1-1

Portage Creek does not appear in the list of Area 1 sections. It appears this is the same list in the Area 1 ROD, which also does not include Portage Creek. EGLE simply notes that Portage Creek is part of Area 1 and discussions on Portage Creek should be included in relevant future documents. No change to the 30% RD document is necessary.

**Commenting Organization:** US EPA  
**Section:** 1  
**Specific Comment:** 3

**Commenter:** Trustees  
**Page #:** 1-2

While the Trustees acknowledge that the ROD anticipates meeting the FRG and RAOs over time, we also note that the longer it takes to achieve these goals, the longer natural resource injuries will continue in the Kalamazoo River, and the longer damages will continue to accrue. The Trustees thus encourage the parties to continue to look for efficiencies in design of dredge prism configurations and in the selection of backfill materials to minimize the time expected to be required to meet the FRGs and RAOs as well as to return natural resource functioning and services to the condition they would have been had the release of PCBs not occurred.

**Commenting Organization:** US EPA  
**Section:** 1  
**Specific Comment:** 4

**Commenter:** EGLE  
**Page #:** 1-2

The list of major components on Page 1-2 does not include Component #3 Long Term Monitoring from the description of the sediment remedy in the Area 1 ROD. Please add Component #3 to the list.

**Commenting Organization:** US EPA  
**Section:** 2  
**Specific Comment:** 5

**Commenter:** Trustees  
**Page #** 2-1

The Trustees applaud the client group and EPA's attention to the sustainability aspects of design and implementation of this project.

**Commenting Organization: US EPA**  
**Section: 2**  
**Specific Comment: 6**

**Commenter: Trustees**  
**Page #: 2-2**

The penultimate sentence should be revised to read as follows: "This information will be used to understand potential actions or limitations that will be required as part of the Remedial Design (RD) regarding protected species, including the expectation that tree cutting will be limited to winter months to avoid harming listed species of bats."

**Commenting Organization: US EPA**  
**Section: 2**  
**Specific Comment: 7**

**Commenter: Trustees**  
**Page #: 2-2**

The Kalamazoo River has a rich diversity of freshwater mussels that are found in localized beds, including several known to be present in Area 1. As in previous projects along the Kalamazoo River, the Trustees recommend that mussel surveys be conducted according to State of Michigan survey protocols during summer months prior to construction. If necessary to prevent destruction of mussels during sediment remediation, provisions should be made for mussel relocation. Survey and relocation protocols are available at <https://mnfi.anr.msu.edu/resources/michigan-mussels>.

**Commenting Organization: US EPA**  
**Section: 3**  
**Specific Comment: 8**

**Commenter: EGLE**  
**Page #: 3-3, 3-5**

Figures 3-1 and 3-5 do not clearly indicate the location/USGS station for the data shown. Please label each figure with the USGS station number.

**Commenting Organization: US EPA**  
**Section: 3**  
**Specific Comment: 9**

**Commenter: EGLE**  
**Page #: 3-7**

The first sentence of this section is incomplete.

**Commenting Organization: US EPA**  
**Section: 4**  
**Specific Comment: 10**

**Commenter: EGLE**  
**Page #: 4-6**

EGLE previously provided comments on the proposed sediment sampling locations in the remedial reach, including between KRT-4 and KRT-5, using the bathymetry data and recommends that those comments be reviewed used to inform the additional sampling. Specifically, EGLE noted that the slope of the riverbed in-between KRT-4 and KRT-5 is shallow and constant, suggesting this area may be largely or entirely depositional in nature.

Commenting Organization: US EPA  
Section: 3  
Specific Comment: 11

Commenter: EGLE  
Page: Figures

Figures 3-2 through 3-4 are hard to interpret. The symbols and colors are difficult to distinguish, and the variables used in the legend need to be defined (e.g., WS, Vel Chnl, Shear Chan).

Commenting Organization: US EPA  
Section: 3  
Specific Comment: 12

Commenter: Trustees  
Page #: 3-3 and 3-9

Figure legends need to include location of gauge station.

Commenting Organization: EPA/EGLE  
Section: 3  
Specific Comment: 13

Commenter: White/EGLE  
Page #: Figures

Please label Verburg Pond on Figure 3-6.

Commenting Organization: US EPA  
Section: 4  
Specific Comment: 14

Commenter: Trustees  
Page #: 4-1

The Thiessen polygon approach makes sense for estimating quantities at the 30% design phase, but hopefully future design phases will use dredge boundaries that make sense from the perspective of addressing geomorphic deposits rather than polygon shapes whose boundaries are an artifact of sample locations. While the Trustees appreciate the notes on the Figure 4-8 series that dredge cut depths are subject to change based on factors including stability, we were concerned by the labeling in the Figure 4-8 series as depicting "Neatline Dredge Cuts" based on the Thiessen polygons and approximate removal depths. The concentrations estimated across the polygons are influenced by heterogeneity of sampling results such that a single polygon estimated as having low concentrations of PCBs based on single sample that is surrounded by high-concentration polygons should not be left un-excavated to erode away. An example of this issue appears to be in Figure 4-8a (Hot Spot KPT-19) where a gray polygon is immediately adjacent to a TSCA removal polygon with an approximate removal depth of 8 feet as well as other polygons with removals depths of 7, 5, and 4 feet.

Commenting Organization: US EPA  
Section: 4  
Specific Comment: 15

Commenter: Trustees  
Page #: 4-1

The basis for design is described as dredging to defined elevations rather than depths. This is important given the dynamic nature of river sediments. We are assuming that the design elevations correspond directly to the *elevations* of the layers in the core samples, despite those frequently being described in terms of depth intervals. Uncertainty in degree of compression of core samples should also be incorporated into the calculation of dredge elevations to help

decrease the possibility of needing to re-dredge an area after verification sampling (described in section 9.3).

**Commenting Organization:** US EPA

**Section:** 4

**Specific Comment:** 16

**Commenter:** Trustees

**Page #:** 4-1 and 4-11

Fluvial geomorphologists and ecologists should be consulted in the selection of materials for residuals cover and backfill. It may be possible to incorporate ecologically beneficial materials with negligible impacts on cost.

**Commenting Organization:** US EPA

**Section:** 4

**Specific Comment:** 17

**Commenter:** Trustees

**Page #:** 4-9

For additional resuspension control, the dredge cycle of the environmental clamshell should include the use of a rinse tank to remove dredge residuals from the bucket before splashing it down into the water column, especially when working in areas with sediments over 50 mg/kg PCBs.

**Commenting Organization:** US EPA

**Section:** 4

**Specific Comment:** 18

**Commenter:** Trustees

**Page #:** 4-10

Debris management itself must be done with care to avoid resuspension. This activity should be closely supervised.

**Commenting Organization:** US EPA

**Section:** 4

**Specific Comment:** 19

**Commenter:** Trustees

**Page #:** 5-3

Section 5.7 (Restoration) states that upland support areas will be restored to former property conditions upon completion of site activities, unless otherwise discussed with property owners. Based on the ROD (p. 7) and the description of components on p. 1-2 of this document, this should instead provide for restoring suitable topsoil and revegetating with native seed mixes and woody plantings wherever landowners approve. In addition, it should be noted that soil stabilization measures during restoration shall include only wildlife-safe materials and not contain netting with a fixed weave that could entangle the eastern massasauga rattlesnake, a federally-listed species, or other wildlife. Even erosion control materials using "degradable" netting can entangle snakes and other wildlife for several years. Other options exist, including net-less erosion control blankets (for example, made of excelsior or from natural fibers loosely woven together in a manner that allows wildlife to wiggle free ), loose mulch, hydraulic mulch, soil binders, unreinforced silt fences, or straw bales.

Commenting Organization: US EPA  
Section: 4  
Specific Comment: 20

Commenter: EGLE  
Page #: Figures

On Figure 4-8d, EGLE recommends that Wood review the excavation depths again and adjust as appropriate. The polygon directly to the south (right on the map) of the polygon marked 9 ft, is designated to be excavated to a depth of 6 ft. However, based on comparison to Figures 4-4h and 4-4j, the excavation depth should be deeper. Assuming an excavation depth criteria of 0.33-1 mg/kg PCB, the excavation depth should be 9 ft. Secondly, the next polygon directly to the south marked 4 ft should also be excavated to a deeper depth. Assuming the same excavation criteria as above, this polygon should be excavated to 8 ft based on comparison to Figure 4-4h. See General Comment #6; it is crucial for review that WOOD provide the removal and excavation depth criteria used.

Commenting Organization: US EPA  
Section: 5  
Specific Comment: 21

Commenter: EGLE  
Page #: 5-2

Site security and land use should be considered when selecting staging areas. The proposed staging areas near Verburg Park, Mayor's Riverfront Park (near the stadium), KRT-5/FF-19 (near the WWTP), and the Crown Vantage Side Channel (on the "debris" pile in the floodplain) should be reconsidered if nearby, secure locations can be identified.

Commenting Organization: US EPA  
Section: 7  
Specific Comment: 22

Commenter: EGLE  
Page #: 7-1

The third paragraph states, "...to produce effluent that meets or exceeds the water quality discharge requirements of the SRD." Exceeding water quality discharge requirements would indicate that the discharge is out of compliance with the SRD. This sentence be changed to "...to produce effluent that meets the water quality discharge requirements of the SRD."

Commenting Organization: US EPA  
Section: 8  
Specific Comment: 23

Commenter: EGLE  
Page #: 8-1

All work should be conducted from upstream to downstream whenever possible, to avoid the potential for recontamination.

Commenting Organization: US EPA  
Section: 9  
Specific Comment: 24

Commenter: EGLE  
Page #: 9-1

The OMM Plan and other relevant documents submitted as part of the remedial design process and referenced in the 30% Design document should be revised to be consistent with project goals. For the OMM Plan this would include revising text in Section 4.0 Sediment

Monitoring that references a post-dredge total PCB SWAC of 1 ppm in sediments as the "action level". The final remediation level PCB SWAC is 0.33 ppm.